

ABSTRACT OF THE DISCLOSURE

[0055] Initial binary data to be communicated or stored is obtained, and a characteristic Hamming weight of the initial binary data is determined. A comparison is then made between the characteristic Hamming weight and a predetermined value, and the initial binary data is processed based on the comparison to thereby develop processed binary data having a Hamming weight not less than the characteristic Hamming weight of the initial binary data. A communication encoding apparatus includes a data input for receiving initial binary data having a characteristic Hamming weight and a processor in communication with the data input for determining the characteristic Hamming weight of the initial binary data. The processor also performs a comparison of the characteristic Hamming weight of the initial binary data with a predetermined value and processes the initial binary data based on the comparison to thereby develop processed binary data having a Hamming weight not less than the characteristic Hamming weight of the initial binary data.